

Special Issue

Reactive Oxygen Species (ROS): Molecular Mechanisms and Therapeutic Strategy

Message from the Guest Editor

Reactive oxygen species (ROS), which are in a chemically active state, are a byproduct of the metabolism of oxygen in cells. They play critical roles in molecular mechanisms in cellular signaling processes, proliferation/migration and homeostasis. Furthermore, the molecular mechanism of ROS is a double-edged sword. Appropriate levels of intracellular ROS contribute to the proliferation, migration and/or homeostasis of cells, while their over-production frequently induces cell cycle arrest, apoptosis, necrosis and/or alterations of genetic/cell structure. These unique properties of ROS have been investigated as a therapeutic tool for various diseases. For example, novel chemotherapeutic agents, which produce ROS, can be used to induce oxidative stress intracellularly and then kill abnormal cells. Additionally, ROS-producing agents can be used as anticancer agents for cancer chemotherapy.

Guest Editor

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Deadline for manuscript submissions

closed (30 September 2023)



International Journal of Molecular Sciences

an Open Access Journal
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Impact Factor 4.9
CiteScore 9.0
Indexed in PubMed



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*International Journal of
Molecular Sciences*
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